The 18th European Conference on Artificial Intelligence

Proceedings

4th International Workshop on Neural-Symbolic Learning and Reasoning

NeSy'08

Monday July 21, 2008
Patras, Greece

Artur S. d'Avila Garcez and Pascal Hitzler

Workshop Schedule

09:00 – 10:00
Keynote Talk
Kai-Uwe Kühnberger
Modeling Reasoning Mechanisms by Neural-Symbolic Learning

10:30 – 10:50
Ekaterina Komendantskaya
Unification by Error-Correction

10:55 – 11:10
Matthew Cook
The Reusable Symbol Problem

11:15 – 11:35
Claudine Brucks, Michael Hilker, Christoph Schommer, Cynthia Wagner, Ralph Weires
Symbolic Computing with Incremental Mind-maps to Manage andMine Data Streams – Some Applicatoins

11:40 – 12:00
Sebastian Bader, Steffen Hölldobler, Nuno C. Marques
Guiding Backprop by Inserting Rules

12:05 – 12:25
Tsvi Achler, Eyal Amir
Hybrid Classification and Symbolic-Like Manipulation Using Self-Regulatory Feedback Networks

Workshop Organisers

Artur d'Avila Garcez, City University London, UK
Pascal Hitzler, University of Karlsruhe, Germany

Programme Committee

Sebastian Bader, TU Dresden, Germany
Howard Blair, Syracuse University, U.S.A.
Luc de Raedt, KU Leuven, Belgium
Marco Gori, University of Siena, Italy
Barbara Hammer, TU Clausthal, Germany
Ioannis Hatzilygeroudis, University of Patras, Greece
Steffen Hölldobler, TU Dresden, Germany
Ekaterina Komendantskaya, Sophia Antipolis, France
Kai-Uwe Kühnberger, University of Osnabrück, Germany
Luis Lamb, Federal University of Rio Grande do Sul, Brazil
Roberto Prevete, University of Naples, Italy
Dan Roth, University of Illinois at Urbana-Champaign, U.S.A.
Anthony K. Seda, University College Cork, Ireland
Frank van der Velde, Leiden University, The Netherlands
Gerson Zaverucha, Federal University of Rio de Janeiro, Brazil

Preface

Artificial Intelligence researchers continue to face huge challenges in their quest to develop truly intelligent systems. The recent developments in the field of neural-symbolic integration bring an opportunity to integrate well-founded symbolic artificial intelligence with robust neural computing machinery to help tackle some of these challenges.

The Workshop on Neural-Symbolic Learning and Reasoning provides a forum for the presentation and discussion of the key topics related to neural-symbolic integration.

Topics of interest include:

- The representation of symbolic knowledge by connectionist systems;
- Learning in neural-symbolic systems;
- Extraction of symbolic knowledge from trained neural networks;
- Reasoning in neural-symbolic systems;
- Biological inspiration for neural-symbolic integration;
- Neural networks and probabilities;
- Applications in robotics, semantic web, engineering, bioinformatics, etc.